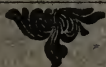


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# *THE NORMAL SCHOOL BULLETIN*

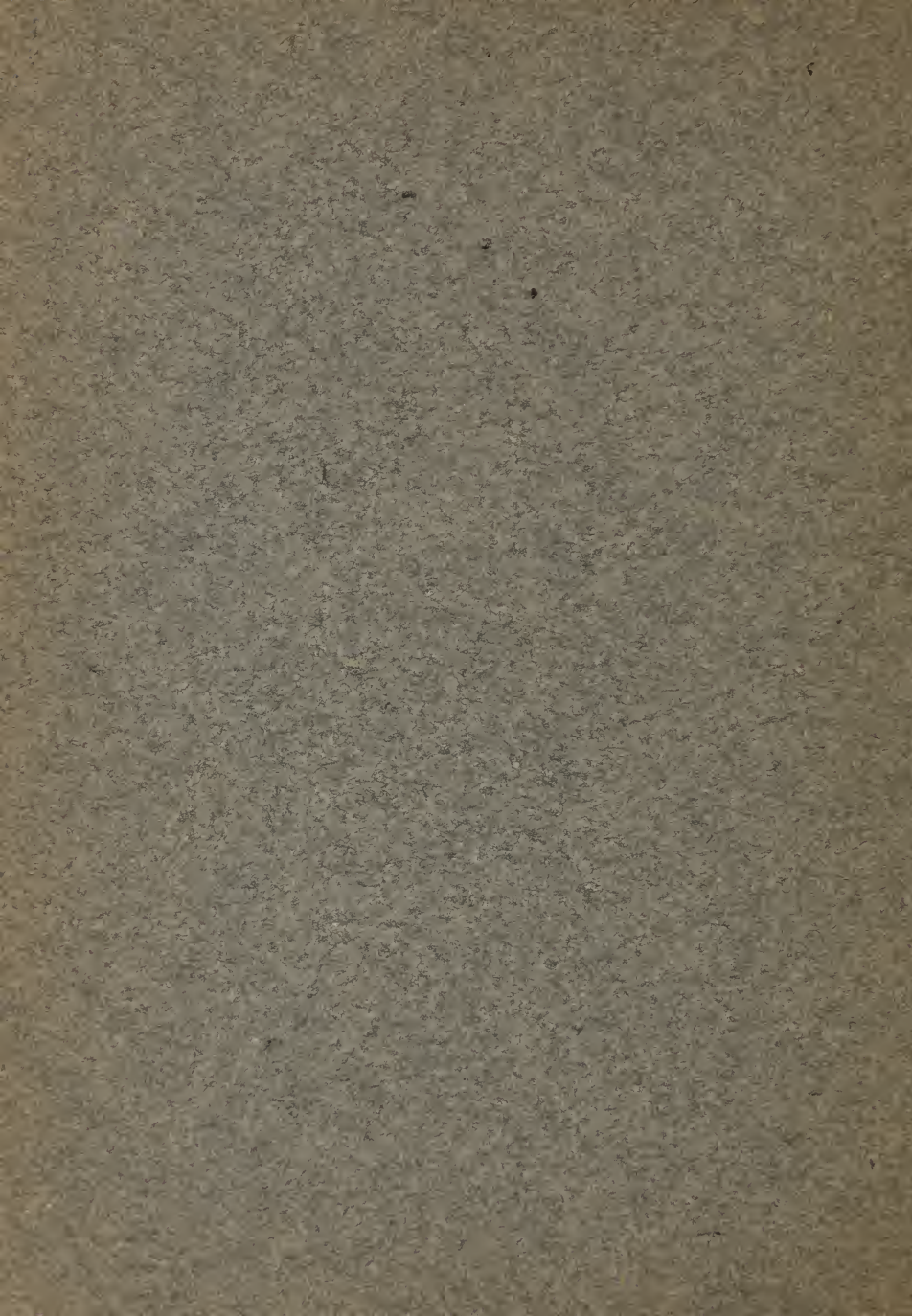
APRIL 1, 1903



MANUAL TRAINING

CAROLINE A. FORBES

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## MANUAL TRAINING

By CAROLINE A. FORBES

*Instructor in Manual Training*

Only when we consider manual work in our schools as a part of the regular curriculum, are we giving it its true place in the general scheme of an education that aims to develop man's faculty and power and make him of the greatest use and benefit to humanity. The end for which we strive is always the same, but the means through which the end is attained must change "to keep pace with our widening knowledge and our broadening and deepening civilization." Not only does each generation call for a different standard of intellectual training, but if we look back year by year we see changes in the course of study brought about to meet these varying needs and conditions, each advance being a step made possible by what has gone before.

Perhaps in no direction have such strides been taken as in the introduction of industrial or hand work. The need of active training in connection with the school was not felt so long as every home was the center of industry and every member of the household participated in its activity. Even the children were made to feel the importance of their own



usefulness and helpfulness to others, and although perhaps not actually taking part in all that was going on about them, they gained from close observation of nature, if not by actual contact with it, knowledge and experience that cannot be overestimated. Manual occupations not only tended to physical development, but to forethought, practical reasoning, and the exercise of care and attention to details, as well as the strengthening of the moral nature. With the rapid growth of our country came changes in the way of living, and the necessity for supplying the wants of the people more fully and rapidly than could be done under the old system. Factories sprang up, turning out cheaply made articles to meet this demand, labor-saving devices were introduced, and hand work was nearly lost sight of. It is not the province of manual training to supply this loss in home activity, but it recognizes the value to the individual of habits formed through systematic and accurate work, the training in responsibility and independence, the strengthening of the muscles, and the education of hand and eye.

The manual training idea is not a new one; indeed, it has been recognized by all educational reformers since Comenius. Over two hundred and fifty years ago, in writing of the educational value of manual work in connection with the elementary school, he says: "They (children) should have a general training in the chief forms of hand work, if, indeed, only to the end that thereby they should not be left in gross ignorance as to what belongs to human life. But, besides this, it will make it much easier to discover later in what direction the natural inclination of each tends." Froebel, the founder of the kindergarten, established his system upon the principle that the teaching of words and things must go together. His leading thought is that "man understands only that which he is able to pro-

duce." Having in mind this sound pedagogical reasoning and applying it to the elementary schools as well as to the secondary, we find that the child who is able to express himself through the work of the hands, as well as by means of words, is the one in whom individuality will acquire its surer development. Prof. William James says: "The most colossal improvement which recent years has seen in secondary education lies in the introduction of the manual training schools; not because they will give us a people more handy and practical for domestic life and better skilled in trade, but because they will give us citizens with an entirely different intellectual fibre."

The psychologist tells us that the mental powers are divided into two classes, the receptive and the expressive, or active. By means of the former, we receive impressions of new facts, and by means of the latter, we make these our own and put them to practical use. This is done through some form of expression, either language, construction, or art. Of these, language is most commonly used. Probably construction is next, for by means of it, man has been able to provide for his needs through all the ages. The expressive and active faculty is best illustrated in children in their desire to express themselves through doing. Their hands must be employed in some way; and as they cannot build up, they use this ceaseless activity in tearing down, their natural tendency being to destroy, to pull things apart to see how they are made. It is not hard to turn this destructive propensity into the constructive, both being forms of the same activity, if we give the children something to work with and train them systematically in the right use of those materials to make an article that will appeal to them through its usefulness and beauty and bring wholesome thoughts in the making. "Let the boy in the manual training school get the satis-

faction out of his work which the boy on the farm feels when allowed to help shingle the shed, which the girl feels when she makes her first loaf of bread or sets the last stitch in a finished garment; for by such simple methods, which are God's own ways, is developed that moral enthusiasm, the lack of which is said to be the crying need of our public education." It is after this complete change in occupation which the child enjoys in manual training that he goes back to his books with pulse quickened by vigorous physical exercise, and feels new interest in his studies.

It would perhaps be better to call this branch of manual work educative wood work or educative hand work, as the educational idea is the one for which we strive. We believe the worker to be of more importance than the work. This is not the case when the work is undertaken as a means of livelihood; then it is the technical skill that takes first place; the worker is lost sight of and the motives become economic. Do not think that we value skill the less; we value the mental, moral, and physical development more—the unity of head, heart, and hand. We cannot give the time in our schools to each any trade thoroughly, and if we could, what child would be able to select the particular occupation that would be fitted to his needs and desires later in life? Dr. Nicholas Murray Butler in his pamphlet, "The Argument for Manual Training," says: "It is not the business of the public schools to turn out draughtsmen, or carpenters, or metal-workers, or cooks, or seamstresses, or modellers. Its aim is to send out boys and girls that are well and harmoniously trained to take their part in life. It is because manual training contributes to this end, that it is advocated. We will all admit, indeed I will distinctly claim, that the boy who has passed through the curriculum which includes manual training will make a better carpenter, a better draughtsman, or a better metal-worker

than he who has not had the benefit of that training. But it is also true that he will make a better lawyer, a better physician, a better clergyman, a better teacher, a better merchant—should he elect to follow any one of those honorable callings—and all for the same reason; namely, that he is a better equipped and more thoroughly educated man than his fellow in whose preparation manual training is not included. Therefore, manual training is in accord with the aim of education.”

We cannot bring the intellect to its highest developement, however, unless the body is given its share of attention. Physical exercise is needed to draw away from the brain the excess of blood that it attracts and to send it equally to all parts of the body. In the school room, if the brain is over-worked, it becomes unnaturally developed, in the end exhausted and unable to perform its functions, and the rest of the body is debilitated. In this connection, let me quote Herbert Spencer, a great advocate of physical education: “Nature is a strict accountant; if you demand of her in one direction more than she is prepared to lay out, she balances the account by making a deduction elsewhere; if you will let her follow her own course, taking care to supply in right quantities and kinds the rare materials of mental and bodily growth required at each age, she will eventually produce an individual more or less evenly developed.” That form of manual exercise which will bring the most muscles into play and start the blood coursing through the veins is the ones we seek, not that it can do all that gymnastics will for the body, but its effort is in the same direction—one is the complement of the other.

Another aim in the manual work is the training in the habit of attention. To gain this we must first have interest—the greater the interest the closer the attention. To determine whether a class is interested in a subject or not, we must notice whether the interest increases or diminishes as the work

goes on. Temporary interest in a subject may be largely curiosity. The subject must be studied to present events so that the interest will be excited and attention promoted. Children soon learn that, in doing hand work, they must attend closely to what the teacher says or they cannot do the work well, if at all. For those who are usually inattentive in the class room, this training is invaluable. It does not take long for them to learn that by attention alone in the manual training room, they are able to do things; and when they find it is absolutely necessary in that branch of work, they are apt to carry this interest to other subjects as well. They soon learn that there must be concentration of attention on the tools used, or there is danger of being hurt or injured, and also that there must be concentration on the article being made, or it will be spoiled. The work must be "definitely right or definitely wrong." Children who are naturally slow when the head works alone soon becomes discouraged, but these same children may show such aptitude when the head and hands work together on something concrete to hold their attention, that they become encouraged, gain self-respect, and throw more energy into all their work than they have ever done before. There, too, is always the incentive to do more work rather than less, the desire to finish as many models as possible, carrying with it perseverance and the corresponding amount of patience.

In order to carry its completeness the purpose of this work, we must not lose sight of the importance of training in the habits of exactness, order, and neatness. We should not expect the same degree of accuracy from each child, but the thought in mind should be to each the work the best that each particular child can produce—it must not be merely "good enough." "Squareness in things," says Dr. Alder, "is not without relation to squareness in action and thinking. A



child that has learned to be exact—that is, truthful in his work—will be inclined to be scrupulous and truthful in his speech, in his thoughts, and in his acts.” Children must be trained to know what good work is, a power lacking in a majority of people. If we cannot expect the same degree of capability in each pupil, however, we can demand and have the same order, so that all work shall be done in the right way, with the same order of procedure running through all the models. The school should train in habits of neatness, too, and insist that each child keep himself or herself clean as possible, no matter what the work performed, the bench or desk cleared of all litter at the close of the lesson, and all tools returned to their proper places. Children who come from homes that are neat and well regulated are often the ones who are most neglectful of those duties, for it often happens that at home the work is done for them, either from a mistaken sense of kindness, or because it is too much trouble to insist upon their doing it themselves.

In determining the degree of exactness that is to be demanded of each pupil, we must discriminate between the lack of ability to execute and the lack of ability to observe—whether this defect is in the eyes, or the hands, or in both. Pupils should be led to observe the forms of objects, so as to carry away an exact impression, and to make a correct estimate as to their size. We must also early bring to their notice the sense of proportion, so that they may distinguish between things that are beautiful and those that are not; give them a perception of what good form is, so that they may learn what is æsthetically correct. Even though an article be merely useful, it should be as well proportioned and as beautiful as its usefulness will allow. In regard to the æsthetic training, Herr Otto Salomon, the Swedish educator and director of the training school for sloyd teachers at Nääs,

Sweden, says: "The fundamental basis in an æsthetic education lies in this, that the child be trained to order and exactness in the ways of life. In the elementary schools, the children should receive the elements of an æsthetic education; until we have given these, we must not try to advance. Objects badly made or badly proportioned, and yet nicely ornamented, are really exceedingly ugly. It is far more important that children should be able to judge when models are well formed than be able to decorate them. Symmetry precedes ornament in æsthetics." The sense of form should be further developed by the making of curves which necessarily have to be tested by the eye and by the touch, thus bringing in a further cultivation of the hand to observe rough and uneven parts that may not be detected by the eye.

Another point that must not be lost sight of in the manual training work is the fact that each piece is made and finished by the pupil himself, there being no division of labor, the work showing the capability and bringing out the individuality of each child. It gives the child a chance to know himself and produces self-reliance and independence. The work is before him in a concrete form, under the direct supervision and judgment of the teacher, and he knows that he must do the best he can, as the result depends entirely upon his individual efforts.

The work is generally done because the child loves it and perhaps no punishment is more severe than that which deprives him of some of the time given to hand work. This love of work brings a respect for bodily labor in general, and before harmony is promoted between all classes of society it will be necessary for each to understand and respect the work of the others. Work well done brings dignity to the one who engages in it.

"Who sweeps a room as for Thy laws,  
Makes that and the action fine."

Every one can not make his living by physical labor, but every one should appreciate that work in others. Let me quote Dr. Butler again: "It is unquestionable that many of our social troubles originate in misunderstandings about labor and false judgments as to what labor really is." He further says: "If we come to see that manual work has in it a valuable disciplinary and educational element, our eyes will be opened as to its real dignity and men will cease to regard it as beneath them and their children. That is what I would call the social argument for manual training. The economic argument is similar. It points out that the vast majority of our public school children must earn their living with their hands, and therefore, if the school can aid them in using their hands, it is putting bread and butter into their mouths. \* \* \* I do say that if the best and most complete education happens to aid a boy in earning his living, that is no reason why it should be supplanted by something less thorough and less complete."

In looking about for that form of manual training that will best serve our needs for both boys and girls, it seems that none is so good as the bench work in wood, and no system so thoroughly based on educational principles as the sloyd system. The word "sloyd" comes from an old Swedish adjective "slog," meaning "handy," or "skilful." From it come the noun "slöjd," English "sloyd," and the words "sly" and "sleight." Sloyd was regarded first from the economic and not the educational standpoint. After the introduction of machinery and the consequent decline of handicraft, the "hem slöjd," or "home sloyd," was fostered by the government, and schools were established for the training of teachers to carry on the work in the public schools. Different kinds of hand work were taught, such as basket-making, cooper's work, wheelwright's work, etc.; but the teaching

was found to be too technical—something else was needed. Herr Salomon saw the weaknesses and bid more than any one else to strengthen the work and place it on an educational basis in Sweden, at the same time dropping all other forms of sloyd but wood sloyd, believing that to be the most useful educationally. Uno Cygnaeus in Finland was also aiming to make sloyd educational in his country, and Mr. Gustaf Larsson, head of the Sloyd Training School in Boston, says, "Perhaps the greatest and most important manual training school that has yet existed was the spot where Cygnaeus and Salomon held council together." This good work has been developing under many educators ever since.

Although working in wood is unquestionably the best form of manual training that can be given, they are, of course, many who have not the equipment necessary for the bench work. For these, there are different kinds of constructive work in which courses can be laid out and intelligently followed. Some of these are especially well adapted to the lower grades. The weaving is one that should always have a place there, as it is a good foundation for much other work. This may be done with yarns, raffia, or strips of cloth. If no other kind of loom is available, a piece of stiff pasteboard will answer. The holes for the warp to pass through may be made with a large darning needle, which is also used for the weaving. The woof should be all closely pressed together. A very good loom is made and sold by Mrs. Mattie Phipps Todd, of the Motley school, Minneapolis, Minn. She has also published an instructive book, "Hand Loom Weaving," Rand, McNally & Co., \$1.00. Another good loom is made by the patentee, Miss Beatrice Lindberg, Faribault, Minn., price 20 cents each.

Clay modeling is good constructive work for the lower grades; but if it is taken up, the children should make



something and not merely play. Put before them a cube or a large spool or any solid and see how nearly they can imitate it. After they have been guided in their work, let them create—not before,

Cardboard construction also should be successfully taught in both lower and upper grades, the progression being graded. Again, in this branch of the work, let every article be something that has a use; for example, the binding of a few sheets of paper in an outside cover will make a good note book and will further give the pupil a little idea of book binding; it may at least create the desire to know more. “Cardboard Construction,” by J. H. Trybom,—Milton Bradley & Co., Publishers, \$1.00,—give some good suggestions and models. There are two good pamphlets, 20 cents each, “Paper Folding” and “Cardboard Construction,” by Wm. C. A. Hammel, published by the B. F. Johnson Co., Richmond, Va.

The basket, or raffia, work seems to have gained firm ground in the schools, and not without reason, for it is exceedingly adaptable and interesting. Some weaving can be done with this material and with the rattan. Then there are the innumerable beautiful baskets that every one likes to make. In this work caution should be had that the child does not attempt too much at first, and that the article shall be serviceable. Start with a mat in the natural color (this can be used under a hot dish on the table); then lead on to shaping baskets and putting in the colors. The design should be well thought out and not beyond the child’s ability to execute. “How to Make Baskets,” by Mary White,—Doubleday, Page & Co., Publishers, \$1.00,—should be in every basket teacher’s hands. Also a pamphlet, “Basket Making,” by T. Vernetta Morse,—Art Craft Institute, Chicago, Publishers, 25 cents,—is helpful. The Smithsonian Institution has published an interesting bulletin, “Directions for Collectors of Indian

Basketry," by Otis T. Mason, which can be had for the asking. I must add that delightful book, "Indian Basketory," by George Wharton James, \$2.00. It is full, not only of the history of Indian basket making, but also of Indian legends that interest the children and others as well.

In the sloyd method, to proceed from the easy to the difficult, from the simple to the complex, from the known to the unknown, in a progressive order, is the most important principle. The terms easy and difficult are, of course, relative; the degree is left to the teacher's judgment. By going from the simple to the complex is meant going from a model containing one simple exercise to a model in which there is a combination of exercises; and by going from the known to the unknown is meant leading from the exercises and tools the uses of which are known to the exercises and tools the uses of which are unknown. The work must never become automatic. When it does, it ceases to be educational.

The result of the exercises should be a finished article, the use of which is appreciated by the child. If he known that he is making something of value, he will take care lest he spoil a model that he prizes, and will watch with interest every step of the work, for he knows to what it leads. It is well, too, to encourage him to make some things for others, thus developing unselfishness.

In order that the work may show clear thought-expression, a working drawing of every model should be made by the pupil, preceding the making of the model. This should be followed step by step in the carrying out of the work.

If I repeat myself here, it is because I think that the point of exactness can not be overemphasized. If too little is exacted in the first place, the work will become and remain slovenly, and no amount of time or patience on the teacher's part can bring it up. The foundation must be well laid if we

are to build upon it. So far as the utility of an article goes, it may serve the purpose just as well if it is either a little longer or a little shorter than the drawing or model, but if the pupil later is going to make a box or something that has to be made true in every part, he will have less difficulty if the standard of exactness has been well kept up. The number of times a pupil has to make a model over must also be left to the teacher. It is probably better not to insist upon more than the second making, to guard against discouragement and possible loss of interest.

The pupil must not depend upon the teacher for help in order to make his work appear better, and she should refrain from touching his model, especially at the most critical point when perhaps the finishing stroke is to make it or to mar it. There may be great temptation to help him out, but it must be resisted so that this work will not fail in its effort to teach self-reliance, independence, and honesty; for no child should claim any work as his own unless he has done every part of it. To do this, he should attempt nothing that he cannot carry to completion alone. The sloyd idea leads up to this, for "every model in sloyd is based upon the exercises of the previous models, and is itself an introduction to the models which are to follow." These models must be followed until the pupil has gained sufficient basis to begin creative work.

Class instruction in sloyd can be given in the drawing, use of tools, position at bench, etc., but much individual attention has to be given as well, to satisfy the teacher that the pupil has a clear idea of what he is about and understands the reasons for it, and is not mechanically following directions. For that reason the class should not be large, never over twenty. The teacher must watch closely and see that the pupils assume correct working positions. If they work in

cramped, awkward positions, the force of the physical exercise is lost and the work becomes injurious. Some pupils will of necessity be in advance of others, but so long as every one understands what he is doing, it matters little. Those who are ahead should be given extra work until every one is ready to go on with the next model. In order that the work may accomplish its purpose, as much time as possible should be given it: every day is not too often; the minimum should be two hours a week. For children from ten to fifteen years of age, hour periods should be arranged; for those younger, thirty to forty minutes is long enough.

The sloyd room should be large, light, and well ventilated—never in the basement if there is another room that can possibly be given over to it,—and it should be conveniently arranged with cupboards and racks for work and tools. Each bench should be fitted out with those tools that are commonly used, and both benches and tools should be as good as the school can afford; the best will not only last longer but will give better satisfaction in the using. If it is impossible to get the full sloyd equipment, with a good sloyd knife, try-square, and ruler, a course in whittling can be followed, which gives free hand work, work tested by mechanical tests, concentration, and some muscular exercise. This must not be mistaken for the so-called “knife work,” which admits of no exercise whatever and is less educational.

The tools should be kept in proper order, being repaired so far as possible and sharpened by the pupils themselves. There should be occasional talks about the tools, the materials that they are made of, and some little reference should be made to their evolution. Different kinds of wood should be used so that the pupil may become familiar with as many



kinds as possible and know which are appropriate for different uses. The cuts of the wood should be understood and something concerning the seasoning.

The finished models should belong to the pupil, but no piece of work should be considered finished until it has been finally passed upon and accepted by the teacher; then the pupil's name and grade should be affixed. If it seems best for any purpose to have the work left for a time at the school, the pupils may be allowed to take home each piece as it is finished to show their parents, with the understanding that it is to be brought back to school and kept there as long as it may seem necessary.

The work in the sloyd room cannot be carried on to advantage unless there is good order. Of course, it is not the order that we find in the class room; it is the order of a busy work room, where every one is intent upon his own task, and where he cannot do his best if distracted by unnecessary talking and passing back and forth. There should be no more talking or boisterousness than in the ordinary class room.

Some helpful books on sloyd are, "The Teacher's Handbook of Sloyd," by Otto Salomon,—Silver, Burdett & Co., \$1.25; "Hand Craft," by John D. Sutcliffe,—Charles E. Merrill & Co., \$1.00; "Working Drawings of Models in Sloyd," by Gustaf Larsson, 3<sup>rd</sup> North Bennet St., Boston, Mass., \$1.20 to teachers. Postage 12 cents. The two latter books contain working drawings.

The School Calendar

1903

*SPRING TERM*

*March 31, Tuesday*

*Class Work begins*

*June 19, Friday*

*Spring Term ends*

*SUMMER TERM*

*June 22, Monday*

*Classification*

*June 23, Tuesday*

*Class Work begins*

*July 31, Friday*

*Summer Term ends*





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